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MEMORANDUM FOR: Chief, Technical Services Group, NPIC
 ATTENTION : Chief, Technical Operations Staff, TSG
 SUBJECT : RED Monthly Report (March 1972)

Significant Items of Interest for March 1972:

1. Evaluation of CRT Image Quality [] Test data was collected on the comparison of interpretability between the best CRT and the hardcopy film. This was performed using NPIC PI's. This data should be fully analyzed by the end of April.

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2. Improved Lenticular Screens [] A go-ahead was given to the contractor to produce the two 30" x 30" screens for evaluation in the Search & Scan PI Station. The screens will be delivered in the fall of 1972.

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4. Automated Coordinate Display [] A series of tests of this device were performed at NPIC to determine if there is sufficient electromagnetic emissions in the building to interfere with the accuracy of the device. The tests were negative and the device operates with relatively high accuracy and consistency.

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5. Stereo Scanning Utility Study [] All of the funds allocated for this project have been expended. The contract is in a "Stop Work" status and all work is suspended.

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GROUP 1
 Excluded from automatic
 downgrading and
 declassification

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Declass Review by NIMA/DOD

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6. Storage & Retrieval of Digitized Imagery

The contractor has evaluated the cost/effectiveness of a wide range of storage techniques and has eliminated most of them on the basis of cost or high technical risk. The contractor, during April, should have narrowed the field to two or three techniques which appear most feasible for our applications.

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7. Preacceptance tests were performed by SDB and ESD on the PI Scan & Search Station during the week of 20 March. The instrument met specifications and it will be delivered to NPIC in mid-April.

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8. High Intensity Light Source (HILS) has performed preliminary tests on the HILS modification for the light tables. The HILS has a luminance of 25,000 foot lamberts peak color corrected and 120,000 foot lamberts without the color filter. expects to have this item packaged and ready for preacceptance tests early in May.

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9. Dry Silver Roll Film Processor. SDB and ESD reviewed the preliminary design proposed for this instrument. The fabrication of this instrument will remain in a hold status until can provide more information on the processor and until the Government processing facilities can provide information on the acceptability of fixed gamma processing.

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10. Latest Dry Silver Materials Tested at Westover. Results of most recent tests on dry silver negative acting film show that it exceeds the performance and approaches the performance of the present operational wet silver. Further tests will be carried out as new batches of material are produced.

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11. has modified the computer program for the High Precision Stereocomparator and the instrument can now accommodate imagery with high roll angles.

12. has completed the first part of the modifications approved for the 10" x 10" Stereocomparator. Included in the modifications are: new reticles, a new focus mechanism, and a new decoupling switch for the joystick.

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13. [] A change-in-scope to the optical services contract to allow additional consultation and to provide for calibration of the image translator was approved. Preliminary work has started on the calibration.

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14. [] A six-week time extension was given on the OIM contract. It will now end on May 31. This extension will allow more adequate analysis of the experimentation performed during the program and to properly document that analysis in the final report.

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16. [] - Color Equipment Investigation Program (Densitometer) [] visited [] to inspect progress on the automatic densitometer. All design was completed and the various components were ready for assembly into the system.

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17. [] Terrain Model Photography - The PAR for the change-in-scope was approved; plans are being made for incorporating large [] patches in the Model Scene and for making radiometric measurements of the illumination at the time of photography. This will produce photography which is calibrated as to focus, exposure and spectral conditions.

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18. [] Color Technology Support - The PAR was approved and contractor notified. A meeting was held between [] contractor personnel to evaluate preliminary tasks to be done during the program period. It is expected that the work orders will be approved shortly.

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19. [] Imagery Interpretation Research Program:

a. Impact Resistant Eyeglasses - The contractor conducted two preliminary studies to evaluate the effect of rendering eyeglasses impact resistant upon PI performance. The results indicate that increased error tolerances in optical quality, permitted under a new Food & Drug Administration rating, degraded visual performance.

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b. Evaluation [] The contractor furnished the final report on the human factors evaluation of the [] Stereocomparator.

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d. CRT Display Evaluation - The contractor has completed the human factors experimental design in support of an [] contract to evaluate CRT display features.

e. Contrast Doubler Evaluation - The contractor submitted a satisfactory final report for a program to assist ESD/TSG in evaluating a prototype contrast doubler.

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24. [] currently processing missile launch pads for SPAD. A briefing and demonstration will be held in early April on results obtained.

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26. Software for Automatic Densitometer - Several meetings were held between AID/SSB and RED/ATB personnel to coordinate the hardware-software development for this densitometer. During March the first computer run using simulated densitometer data was successfully completed using AID-developed software. Achieving this milestone at this early date indicates that required software will be on hand to permit operation of the densitometer when it arrives in early summer.

27. Implementation of FY-71 Imagery Interpretation Research Program - Each Group and Staff within the Center received a synopsis of the FY-71 IIRD results. Organizations designated as action components will note which research findings and/or recommendations have/have not been implemented along with the rationale for the decision. Results from this program will be employed in developing the follow-on human factors research efforts, and will further insure that past expenditures for human factors research have been justified. A similar plan is currently underway for the FY 69-70 IIRP.

28. A revised edition of the Human Engineering Design Guide was delivered to previous recipients of the document. Anyone who holds an earlier edition, and who has not received the revision or anyone else who requires a copy should contact [REDACTED]

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29. The following proposals are being evaluated:

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a. Front Projection Methods [REDACTED]

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b. Aerial Image Feasibility [REDACTED]

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c. Resolution Target for MTF Analyzer [REDACTED]

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d. Eyeshades for Zoom [REDACTED]

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e. Digital Mensuration [REDACTED]

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f. Mensuration Parameter Data File [REDACTED]

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g. Film Tension Tester

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h. Vibration Dampening of Table

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i. Two proposals were received

One proposes to investigate potential applications of liquid crystal technology to photointerpretation. The other proposes a follow-on project to develop and evaluate highly saturated dyes for use in the

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Both proposals are under evaluation.

j. A proposal was received to help the Center develop a color difference formula using operational color photography and Center PI's.

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30. The following projects were approved during March:

a. UV State-of-the-Art Review

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b. C-in-S PI Scan & Search

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c. Interactive Viewer

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d. Interpupillary Lock for Zoom

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e. 15X Eyepieces and 3X Objectives

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31. Meetings, Briefings, etc.:

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a. The group was briefed and given demonstrations of the PI Print Station and the High Precision Stereocomparator.

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c.

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discuss a request for support by RADC for their work with an Automatic Stereo plotter. The support requested is magnetic tapes of Microdensity scans by the Image translator.

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e. A meeting was held on 13 March between representatives from RED and AID on proposed software support for [REDACTED] computers. A follow-up meeting on this agenda was convened on 27 March on the specifics of the initial request.

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f. Impact Resistant Lens Evaluation - On 23 March Chief, TSG [REDACTED] briefed personnel from the Food & Drug Administration on the results of an NPIC research program. A recent FDA ruling requires eyeglass lenses to be impact-resistant, but the process of treating the glass may produce warpage of the glass. The results indicated that warpage tolerated under the rating may adversely effect visual performance.

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g. Stereo Acuity Testing Support [REDACTED]
[REDACTED] TOPOCOM, were briefed by [REDACTED] on the Center's vision testing program. TOPOCOM plans to meet in the near future with Center management to discuss the Army's participation in the Center's program.

32. Personnel Actions:

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Important Items Planned for April:

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[REDACTED] will brief APSD on Color Software developed for evaluation purposes.

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[REDACTED]
Deputy Chief
Research & Engineering Division
TSG/NPIC

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